

METHOD AND APPARATUS FOR PROCESSING UNIT SYNCHRONIZATION FOR SCALABLE PARALLEL PROCESSING

ABSTRACT OF THE DISCLOSURE

The present invention flexibly manages the formation of a partition from a plurality of independently executing cells (discrete hardware entities comprising system resources) in preparation for the instantiation of an operating system instance upon the partition. Specifically, the invention manages configuration activities that occur to transition from having individual cells acting independently, and having cells rendezvous, to having cells become interdependent to continue operations as a partition. The invention manages the partitioning forming process such that no single point of failure disrupts the process. Instead, the invention is implemented as a distributed application wherein individual cells independently execute instructions based upon respective copies of the complex profile (a “map” of the complex configuration). Also, the invention adapts to a degree of delay associated with certain cells becoming ready to join the formation or rendezvous process. The invention is able to cope with missing, unavailable, or otherwise malfunctioning cells. Additionally, the invention analyzes present cells to determine their compatibility and reject cells that are not compatible.